JAMA Clinical Guidelines Synopsis

Management of Hypertension in Adults

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GUIDELINE TITLE Guideline for the Prevention, Detection, Evaluation, and Management of Hypertension in Adults

RELEASE DATE August 15, 2025

PRIOR VERSION 2017

DEVELOPER American College of Cardiology (ACC)/American Heart Association (AHA)

TARGET POPULATION Adults

TARGET AUDIENCE All practicing primary care and specialty clinicians who treat patients with hypertension

SELECTED RECOMMENDATIONS

- Home blood pressure (BP) monitoring is recommended for confirming hypertension (defined as office systolic BP [SBP] ≥130 mm Hg or diastolic BP [DBP] ≥80 mm Hg; averaged on 2 measurements on ≥2 separate occasions) and monitoring titration of antihypertensive medications with a target goal BP of less than 130/80 mm Hg (class of recommendation [COR]: 1; level of evidence [LOE]: A).
- Screening for primary aldosteronism using plasma aldosterone and renin activity levels (COR: 1; LOE: C) is recommended for all patients with resistant hypertension (COR: 1; LOE: B-nonrandomized [NR]); and for patients with hypertension and hypokalemia, obstructive sleep apnea, adrenal mass, family history of early-onset hypertension (age <30 years), or stroke at younger than 40 years (COR: 1; LOE: C).
- For adults with hypertension, no known atherosclerotic cardiovascular disease (ASCVD), and an estimated 10-year ASCVD risk less than 7.5%, antihypertensive medications should be initiated if SBP is 130 mm Hg or greater (COR: 1; LOE: B-randomized [R]) or mean DBP is 80 mm Hg or greater (COR: 1; LOE: B-R) after 3 to 6 months of lifestyle modifications.
- Hypertension medications should be initiated along with lifestyle modifications to reduce ASCVD events and mortality for adults with stage 2 hypertension (mean BP ≥140/90 mm Hg) (COR: 1; LOE: A) or a mean SBP of 130 mm Hg or greater (COR: 1; LOE: A) or DBP of 80 mm Hg or greater (COR: 1; LOE: C) in those with diabetes, chronic kidney disease, or a 10-year ASCVD risk of 7.5% or greater. Fixed-dose combination antihypertensive medications from different classes are suggested for stage 2 hypertension (COR: 1; LOE: B-R).
- Achieving BP treatment goals may require maximally tolerated doses of thiazide diuretics along with long-acting dihydropyridine calcium channel blockers (CCBs) and angiotensin-converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARBs), which are all first-line therapies for nonpregnant adults (COR: 1; LOE: A).

Summary of the Clinical Problem

Hypertension is the leading modifiable risk factor worldwide for ASCVD, and approximately half of US adults have hypertension.[1] Uncontrolled BP contributes to heart failure, stroke, atrial fibrillation, and sudden cardiac death and is associated with development of kidney failure and dementia.[2] This guideline was designed to provide clinicians with a risk stratification approach to managing BP. This synopsis highlights key guideline recommendations.

Supplemental content

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Characteristics of the Guideline Source

The ACC/AHA Joint Committee on Clinical Practice Guidelines selected a writing committee that included people with a variety of backgrounds and clinical practice (such as preventive and interventional cardiologists, cardiac imaging experts, internists, nephrologists, advanced practice nurses, and cardiovascular epidemiologists). Class of recommendation was rated as 1, 2a, 2b, or 3 based on net benefits and risks. Level of evidence was graded as A through C, with A evidence supported by more than 1 high-quality randomized clinical trial (RCT), meta-analyses of high-quality RCTs, or 1 or more RCTs corroborated by high-quality registry studies (eTable in the Supplement).

Evidence Base

Of the 108 recommendations, 64 had a COR of 1, 25 had a COR of 2, 2 had a COR of 3 (no benefit), and 7 had a COR of 3 (harm). Of the 64 COR 1 recommendations, 22 were supported by a grade A LOE, 27 were informed by a grade B LOE, and 15 by a grade C LOE.[2]

Home BP measurement combined with standard BP measurements obtained during health care visits is recommended for confirming and monitoring adult hypertension. In a trial of 555 adults with a baseline BP of 130/80 mm Hg or higher and at least 1 high-risk condition (ASCVD, diabetes, stage 3 chronic kidney disease), patients randomized to home BP monitoring had lower BP at 12 months vs those randomized to usual care (mean BP, 128.2/73.8 mm Hg vs 137.8/76.3 mm Hg; SBP mean difference, −9.2 [95% CI, −12.7 to −5.7] mm Hg; DBP mean difference, −3.4 [95% CI, −5.0 to −1.8] mm Hg).[3]

Approximately 5% to 10% of patients with hypertension and approximately 20% of patients with resistant hypertension (defined as BP ≥130/80 mm Hg despite treatment with 3 antihypertensive classes, including 1 diuretic) have primary aldosteronism.[2] Screening for primary aldosteronism is recommended in all patients with resistant hypertension and in those with hypertension and hypokalemia, obstructive sleep apnea, adrenal mass, family history of early-onset hypertension (age <30 years), or stroke at younger than 40 years to decrease the risk of heart failure, stroke, coronary

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artery disease, atrial fibrillation, and kidney disease.[2] In a cohort study of 1180 consecutive patients newly diagnosed with hypertension who were screened for primary aldosteronism, only 48% of the 126 patients diagnosed with primary aldosteronism had hypokalemia.[4] A plasma aldosterone-renin activity ratio of greater than 30 has a sensitivity of 97% (95% CI, 83%-100%) and a specificity of 92% (95% CI, 89%-95%) for diagnosis of primary aldosteronism.[5] Before testing for primary aldosteronism, the guideline recommends unrestricted salt intake, correcting hypokalemia, and discontinuing mineralocorticoid receptor antagonists for at least 4 weeks.[2]

For adults with hypertension and a 10-year ASCVD risk less than 7.5% (assessed with the Predicting Risk of Cardiovascular Disease Events [PREVENT] model), medications are recommended if mean SBP remains 130 mm Hg or greater or DBP 80 mm Hg or greater after 3 to 6 months of lifestyle interventions to reduce BP. Lifestyle modifications include at least 5% weight loss in patients with overweight or obesity, low sodium intake (ideally <1500 mg/d), a heart-healthy diet such as the DASH eating plan, moderate dietary potassium supplementation, reduced alcohol use (abstinence is recommended, but at minimum limit to ≤2 drinks per day in males or ≤1 drink per day in females), increasing aerobic exercise and/or resistance training (COR: 1; LOE: A for all of the above), and stress reduction (such as transcendental meditation, breathing control techniques, or yoga) (COR: 2b; LOE: B).[2]

For adults with stage 2 hypertension (BP ≥140/90 mm Hg) or ASCVD risk of 7.5% or greater, medication initiation in addition to lifestyle modification is recommended if mean BP is 130/80 mm Hg or greater (target BP goal <130/80 mm Hg, with encouragement to achieve <120/80 mm Hg). In a trial of 9361 patients with hypertension and elevated 10-year ASCVD risk without diabetes or prior stroke, those randomized to an intensive treatment target (SBP <120 mm Hg) had less myocardial infarction, other acute coronary syndromes, stroke, acute decompensated heart failure, or cardiovascular death vs those randomized to a treatment target of SBP less than 140 mm Hg (1.77% vs 2.40% per year; hazard ratio [HR], 0.73; 95% CI, 0.63-0.86) at a median follow-up of 3.33 years; all-cause mortality was also lower among patients randomized to a target SBP less than 120 mm Hg vs less than 140 mm Hg (1.06% vs 1.41% per year; HR, 0.75; 95% CI, 0.61-0.92).[6] Initiating fixed-dose combination antihypertensive tablets is recommended for patients with stage 2 hypertension. Observational studies show higher adherence and less cardiovascular disease vs individual pill formulations.[2]

Thiazide diuretics, long-acting dihydropyridine CCBs, and ACE inhibitors or ARBs are first-line initial antihypertensive treatment. In a network meta-analysis of 46 RCTs of 248 887 nonpregnant adults that evaluated ACE inhibitors, CCBs, ARBs, β-blockers, and diuretics, a lower relative risk (RR) of cardiovascular death was observed among patients taking diuretics (RR, 0.78; 95% CI, 0.69-0.88), dihydropyridine CCBs (RR, 0.80; 95% CI, 0.71-0.89), ACE inhibitors (RR, 0.80; 95% CI, 0.70-0.91), and ARBs (RR, 0.85; 95% CI, 0.74-0.97) but not β-blockers (RR, 0.99; 95% CI, 0.87-1.13).[7] Strong evidence supports these 3 classes as first-line agents due to their favorable profiles for BP lowering, ASCVD prevention, and tolerability.[2]

Discussion

The guideline encourages using the PREVENT equations to predict 10-year ASCVD risk in adults aged 30 to 79 years without known CVD and to guide medication initiation, recommended for patients with a PREVENT 10-year total CVD risk of 7.5% or greater,[8] with discretion for those who are frail or have a limited life expectancy. The guideline recommends lowering SBP to less than 130 mm Hg to prevent mild cognitive impairment and dementia (COR: 1; LOE: A). In a meta-analysis of 17 longitudinal, population-based studies of aging (34 519 adults aged ≥60 years), untreated hypertension at baseline was associated with a 26% higher risk of incident dementia vs treated hypertension over a mean of 4.3 years (HR, 1.26; 95% CI, 1.03-1.53), and the interaction with age was not significant.[9]

Renal denervation may be considered for carefully selected patients with resistant hypertension despite optimal treatment or intolerable adverse effects from antihypertensives (COR: 2b; LOE: B-R); all patients being considered for this procedure should be evaluated by an expert multidisciplinary team (COR: 1; LOE: B-NR).

Pregnant people with prepregnancy hypertension or SBP of 140 to 159 mm Hg and/or DBP of 90 to 109 mm Hg prior to 20 weeks' gestation should receive antihypertensive therapy to achieve a BP less than 140/90 mm Hg to decrease perinatal morbidity and mortality (COR: 1; LOE: B-R). Labetalol and extended-release nifedipine are preferred agents for pregnant people (COR: 1; LOE: A).

ARTICLE INFORMATION

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